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EXAMINER

LEVITAN, DMITRY

ART UNIT PAPER NUMBER

2662

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/661,402

Applicant(s)

KROON, JEFFREY

Examiner

Dmitry Levitan

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-13 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-13 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 13 September 2000 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. ____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date ____. | 6) <input type="checkbox"/> Other: ____. |

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Applicant's amendment, filed 02/06/04, has been entered. Claims 1-13 remain pending.

Drawings

1. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the comparing the received ACK packet from the destination station with the retransmission packet in the message queue including consideration of the sequence number, destination address, source address, destination port and TCP control bits of the received ACK packet must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Specification

2. The disclosure is objected to because of the following informalities:
typographical errors on page 16, n instead of in.

Appropriate correction is required.

Claim Rejections - 35 USC § 112

3. Claims 2, 7 and 9 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter, which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

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The specification does not provide sufficient details to enable a skilled in the art to make and use the invention because it does not adequately describe the following:

Regarding claims 2 and 9, how to consider the sequence number, destination address, source address, destination port and TCP control bits of the received ACK packet with those of the retransmission message packet in the queue.

Regarding claim 7, means for evaluating includes means for consideration of the sequence number, destination address, source address, destination port and TCP control bits of the received ACK packet.

The specification does not provide enough details about the structure and operation of the elements associated with the above identified claimed features to enable one skilled in the art to make and use the invention without undue experimentation.

Claim Rejections - 35 USC § 102

4. Claims 8 and 10 are rejected under 35 U.S.C. 102(e) as being anticipated by Phillips (US 6,118,765).

Phillips teaches a method in radio network (Fig. 6 and 6:17-29) using TCP as a transport protocol (6:57-65) for acknowledging (1:14-21) IP message packets (6:66-67 and 7:1-11) successfully received at a destination station and retransmitting message packets from a source station (base station controller 218 and IWF 214 on Fig. 6 and 8:22-28) which are not acknowledged within a predetermined period of time (1:23-27), a method of reducing the unnecessary retransmission of message packets comprising the steps of:

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- a. Receiving TCP packets at a source radio (slow link TCP optimizer 510 and base station controller 218 on Fig. 6 9:21-33) from a source station for retransmission to a destination station;
 - b. Maintaining the TCP packets in a message queue until retransmission (buffer queue alternative 9:57-63);
 - c. Comparing each received TCP packet from the source station with the TCP packets in the message queue (discriminator 514 on Fig. 5 and 9:28-33) at a source radio (IFW comprising optimizer 510 which comprises discriminator 514 on Fig. 6 and 9:26-34, 10:5-12); and
 - d. Discarding the received TCP packet if the TCP packet matches a TCP packet already in the message queue (9:64-67 and 10:1-4)
- To thereby prevent duplicate TCP packets from being stored in the message queue.

Claim Rejections - 35 USC § 103

5. Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over Phillips. Phillips substantially teaches all the limitations of claim 13, including means for recognizing the receipt of a TCP acknowledgement message at the source radio (acknowledgements 122 on Fig. 5 and 8:6-15) and utilizing CDMA interconnection (7:33-36) to a remote terminal that accepts transmission in both directions. Phillips does not teach means for recognizing the receipt of a TCP acknowledgement at both stations.

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It would have been obvious to one of ordinary skill in the art at the time the invention was made to add means for recognizing the receipt of a TCP acknowledgement at each station to the system of Phillips to eliminate unnecessarily retransmission in the system, particularly benefiting transmission from a remote terminal.

6. Claims 1, 3-6, 11 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Phillips in view of Packer (US 6,018,516).

Phillips substantially teaches all the limitations of claims 1, 4, 6, 11:

A system and a method of reducing the retransmission of previously successfully transmitted message packets (4:6-17) from a source station (base station controller 218 and IWF 214 on Fig. 6 and 8:22-28) to a destination station (remote terminal 110 on Fig. 110 and 7:27-32) through a radio network (CDMA 6:24-28) in which the source station has at least one corresponding destination radio (mobile unit 216 on Fig. 6 and 10:5-12) and the radio network utilizes TCP as the reliable transport protocol (6:57-65), comprising the steps of

- a) Maintaining a message queue at the source radio (slow link TCP optimizer 510 and base station controller 218 on Fig. 6 9:21-33) including TCP retransmission messages from the source radio to destination stations (9:57-63);
- b) evaluating each TCP message received at the source radio to determine whether the received message is a TCP acknowledgement from destination station corresponding to a TCP retransmission message in the message queue (acknowledgements 122 on Fig. 5 and 8:6-15).

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Phillips does not teach discarding the TCP retransmission message from the message queue if the evaluated TCP message is an acknowledgement corresponding to the TCP retransmission message (steps c and d).

Packer teaches discarding the TCP retransmission message from the message queue if the evaluated TCP message is an acknowledgement corresponding to the TCP retransmission message (2:64-67, 3:1-3) at the source of transmission (inherently part of the server 20 on Fig. 1A, because in a server/client system the message queue and the acknowledgements are located at the server, 3:44-67, 4:1-8).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to add discarding the TCP retransmission message from the message queue if the evaluated TCP message is an acknowledgement corresponding to the TCP retransmission message at the source of transmission of Packer to the system of Phillips to eliminate unnecessarily retransmission in the system.

Regarding claims 3, 5 and 12, Phillips teaches the message packets as IP packets (6:66-67 and 7:1-11).

In addition, regarding claim 6, Phillips teaches means for evaluating each TCP message and means for discarding the message as slow link TCP optimizer (Fig. 5 and 9:21-63).

Response to Arguments

7. Applicant's arguments filed 02/06/04 have been fully considered but they are not persuasive.

On page 8 of the Response, Applicant argues that drawings to show comparing the received ACK packet from the destination station with the retransmission packet in the message queue including consideration of the sequence number, destination address, source address, destination port and TCP control bits of the received ACK packet are not necessary for understanding invention.

Examiner respectfully disagrees.

Comparing the received ACK packet from the destination station with the retransmission packet in the message queue including consideration of the sequence number, destination address, source address, destination port and TCP control bits of the received ACK packet is unclear, because the received ACK packet and the retransmission packets have different sequence numbers, destination addresses, source addresses and destination ports.

On page 10 of the Response, Applicant argues that algorithm disclosing how to consider the sequence number, destination address, source address, destination port and TCP control bits of the received ACK packet with those of the retransmission message packet in the queue and means for evaluating includes means for consideration of the sequence number, destination address, source address, destination port and TCP control bits of the received ACK packet are disclosed on page 25 of the specification.

Examiner respectfully disagrees.

The specification on page 25 does not disclose an algorithm or means for the consideration, but only suggest considering the listed above items for identification of a TCP retransmit message.

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On page 11 of the Response, Applicant argues that Packer does not teach "comparing each received TCP packet from the source station with the TCP packets in the message queue at the source radio" as claimed in claim 1.

Examiner respectfully disagrees.

Claim 1 does not comprise the quoted limitation.

Examiner therefore believes that the cited references meet all the claims limitations and the rejection is proper.

Conclusion

8. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dmitry Levitan whose telephone number is 703-305-4384. The examiner can normally be reached on 8:30 to 4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hassan Kizou can be reached on 703-305-4744. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

DL

Dmitry Levitan
Patent Examiner.
02/12/04


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